RELY ON EXCELLENCE

SPO (Plan 53C)

Seal Supply Systems | Closed loop systems

Features

Pressurized barrier system (closed circuit) for use in seal systems with high pressures and/or for hazardous/environmentally harmful processes. The SPO Plan 53C range is available with a pressure booster, cooler (finned tube, water or air cooler with fan) and a wide range of instruments.

Circulation in accordance with API 682 / ISO 21049: Plan 53C

Functional description

The SPO is designed to perform the following functions of a barrier system:

- to pressurize the buffer chamber
- leakage compensation
- to cool the seal

Pressurization (> process pressure) prevents the process medium from getting into the barrier circuit or the atmosphere. Pressurization is supplied by a pressure booster in dependency on the process pressure. Circulation in the barrier circuit takes place by the thermosiphon principle or by forced circulation, e.g. with a pumping screw.

Advantages

- Pressurization is by means of a pressure booster
- Automatic setting of the barrier pressure via reference pressure: simple and reliable mode of operation
- Safe operation even in case of pressure changes
- Barrier pressure is created without any need for connection to a nitrogen supply
- Available with finned tube, water or air coolers with fan
- Modular system: combination with a wide range of system components/instruments possible

Standards and approvals

- PED 2014/68/EU (Design and production in accordance with EU Pressure Equipment Directive)
- ASME VIII, Div. 1 (Design, calculation and production)

Recommended applications

- Petrochemical industry
- Chemical industry
- Oil and gas industry
- Refining technology

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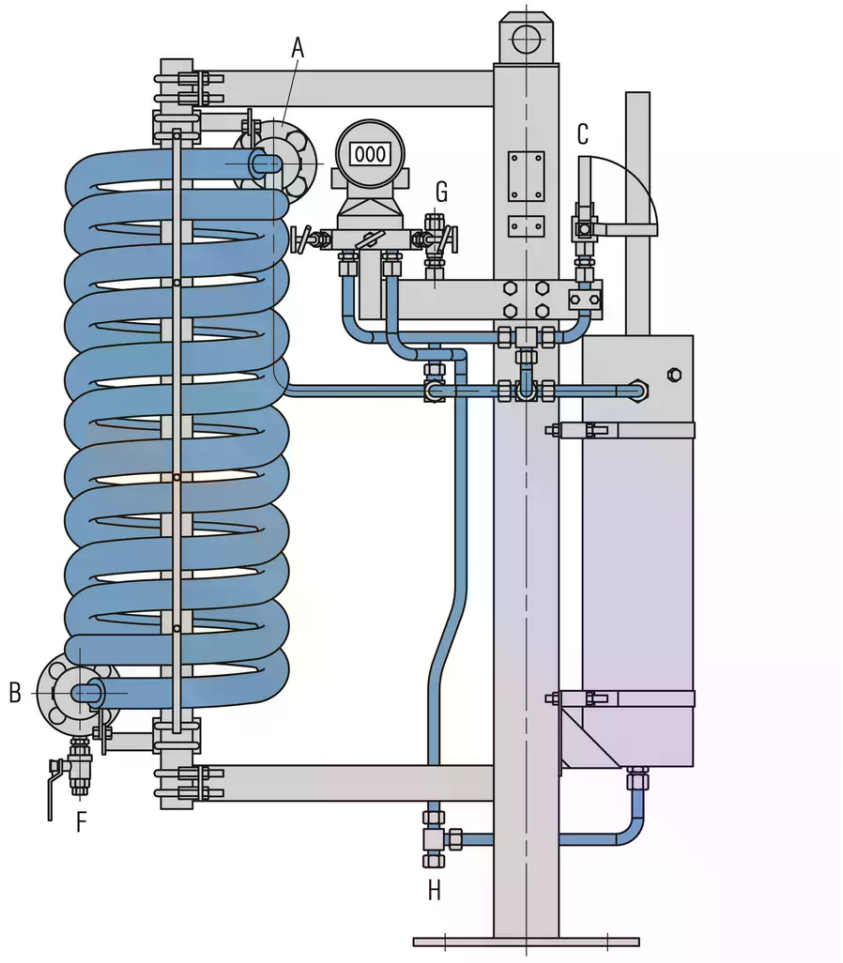
Notes

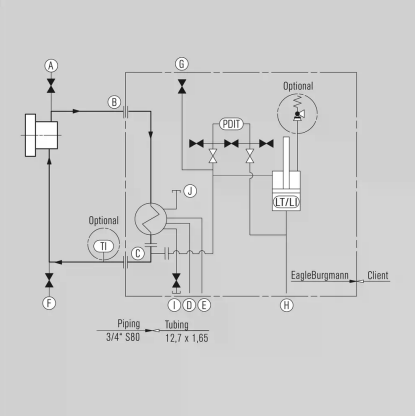
A refilling unit has to be provided.



SPC6002A4 with air cooler

A From mechanical seal
B To mechanical seal
C Fill
G Vent
H Pressure reference

Installation, details, options



Operating and installation diagram for SPO (Plan 53C)

A Vent
B From mechanical seal
C To mechanical seal
D Cooling water IN
E Cooling water OUT
F Drain
G Filling connection
H Pressure reference
I Cooling water drain
J Cooling water vent

Product variants

Designation	SPC6000A4	SPC6001A4	SPC6000A4	SPC6001A4
Design code	ASME VIII, Div. 1	PED 2014/68/EU	ASME VIII, Div. 1	PED 2014/68/EU
Type of heat exchanger	Aircooler a)	Watercooler b)	Aircooler a)	Watercooler b)
For shaft diameters≤60 mm (acc. to API 682)	■	■		
For shaft diameters>60 mm (acc. to API 682)			■	■
Piston accumulator (liters)	2.8	2.8	5.1	5.1
Allowable pressure1)	44 bar (638 PSI)	44 bar (638 PSI)	44 bar (638 PSI)	44 bar (638 PSI)
Allowable temperature – piston accumulator1)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)
Allowable temperature – system1)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)	-20 °C ... +90 °C(-4 °F ... +194 °F)
Cooling capacity –with water cooled heat exchanger (kW)2)	10		10	
Cooling capacity –with air cooled heat exchanger (kW)2)	2.0		2.0	
Metal parts	316/316L	316/316L	316/316L	316/316L

Other versions and connections (flanged, threaded, welded) on request.

1) Design data, permissible working values depend on the actual conditions of service.
2) The cooling performance depends on the available fluids, their temperatures and flow rates. Please contact EagleBurgmann for professionally selecting the correct heat exchanger.

a) WEL6002A4
b) WEF6100A4